



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,657	12/31/2000	Rolfe C. Anderson	1087.5A (39US2)	2968

33743 7590 05/02/2003

CHIEF INTELLECTUAL PATENT COUNSEL  
AFFYMETRIX, INC.  
3380 CENTRAL EXPRESSWAY  
SANTA CLARA, CA 95051

EXAMINER

BEISNER, WILLIAM H

ART UNIT	PAPER NUMBER
----------	--------------

1744

DATE MAILED: 05/02/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/751,657

Applicant(s)

ANDERSON ET AL.

Examiner

William H. Beisner

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 41-43 and 45-49 is/are pending in the application.
- 4a) Of the above claim(s) 41-43 and 49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 45-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6&8
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group II, Claims 45-48, in Paper No. 11 is acknowledged. The traversal is on the ground(s) that all the claims could be searched and examined at the same time. This is not found persuasive because as required of 35 USC 121, the Examiner has shown that the groups of claims are distinct and/or independent inventions for the reasons set forth in the office action dated 04 Dec. 2002. Furthermore the Examiner has shown that search and examination of all of the claims poses a serious burden to the Examiner in view of the separate classification and/or different fields of search required of the different groups of inventions.

The requirement is still deemed proper and is therefore made FINAL.

### ***Priority***

2. The reference to application 09/005,985 needs to be updated so as to reflect its current status as a patented application.

### ***Information Disclosure Statement***

3. The information disclosure statements filed 15 Oct. 2001 and 18 Oct. 2001 have been considered and made of record.

### ***Specification***

4. The disclosure is objected to because of the following informalities:

Art Unit: 1744

The specification papers have been filed with top margins that are less than 0.75 in. As a result, some of the text of the first line of each page of the specification has been removed by holes that have been punched in the application papers for securing the papers in the application file jacket. This missing text will result in complications when printing the application upon allowance of the claims. It is requested that applicants file another copy of the specification with an adequate top margin for allowing holes to be punched for securing the papers in the application file jacket.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

Art Unit: 1744

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andreovski et al.(US 5,882,903) in view of Southgate et al.(US 5,863,502).

The reference of Andreovski et al. discloses a low-volume hybridization chamber device (110) that includes a base (111); a reaction chamber (250, 140) disposed in the base and bound by a flexible diaphragm (241,242).

While the reference of Andreovski et al. discloses that hybridization reactions can be performed within the reaction chamber (250) (See column 19, lines 4-29), the reference is silent as to the use of a probe array in the reaction chamber.

The reference of Southgate et al. discloses that the use of a plurality of hybridization probes on a membrane (probe array) within a chamber of a microchannel device is known in the art (See column 24, line 66, to column 25, line 13).

In view of this teaching, it would have been obvious to one of ordinary skill in the art to employ a hybridization probe array membrane in the chamber of the reference of Andreovski et al. for the known and expected result of providing an alternative means recognized in the art to detect nucleic acids. The use of a probe array allows multiple types of nucleic acids to be detected in a single reaction chamber.

Art Unit: 1744

With respect to the claimed chamber volumes of claims 46 and 47, the reference of Andrevski et al. discloses 5 micro liters and 20 micro liters as possible chamber volumes (See column 9, lines 58-63).

With respect to the claimed pneumatic system for moving the diaphragm of claim 48, see the pneumatic system disclosed in Figs. 4A-4C which discloses moving the membranes (See column 5, lines 30-55).

Note the above references are applicable as prior art under 35 USC 102(e) since the instant claims only have benefit of the filing date of parent application US 09/005,985 filed 12 January 1998 and/or provisional application US 60/043,490 filed 10 April 1997. The disclosures of the earlier applications do not provide support for the instant claim language.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The reference of Northrup et al.(US 5,639,423) is cited as prior art that pertains to microfabricated reactor devices.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Beisner whose telephone number is 703-308-4006. The examiner can normally be reached on Tues. to Fri. and alt. Mon. from 6:40am to 4:10pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Warden can be reached on 703-308-2920. The fax phone numbers for the

Art Unit: 1744

organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

  
William H. Beisner  
Primary Examiner  
Art Unit 1744

WHB  
May 1, 2003